



1600

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/502,424A

DATE: 04/02/2003

TIME: 12:14:41

Input Set : A:\082447-0102.txt

Output Set: N:\CRF4\04022003\I502424A.raw

3 <110> APPLICANT: Kilian, Andrzej  
4 Bowtell, David  
6 <120> TITLE OF INVENTION: VERTEBRATE TELOMERASE GENES AND PROTEINS AND USES  
7 THEREOF  
9 <130> FILE REFERENCE: 082447-0103  
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/502,424A  
C--> 12 <141> CURRENT FILING DATE: 2000-02-11

14 <160> NUMBER OF SEQ ID NOS: 155  
16 <170> SOFTWARE: PatentIn Ver. 2.0  
18 <210> SEQ ID NO: 1  
19 <211> LENGTH: 3964  
20 <212> TYPE: DNA  
21 <213> ORGANISM: Homo sapiens  
23 <400> SEQUENCE: 1

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27 gacgcacggc cccccccgc cgccccctcc ttccgccagg tgtcctgcct gaaggagctg 240  
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53 tggagcaagt tgcaaagcat tggaaatcaga cagcacttga agagggtgca gctgcgggag 1800
54 ctgtcggaag cagaggtcag gcagcatcgg gaagccaggc ccgccctgct gacgtccaga 1860
55 ctccgcttca tccccaagcc tgacgggctg cggccgattg tgaacatgga ctacgtcgtg 1920
56 ggagccagaa cgttccgcag agaaaagagg gccgagcgtc tcacctcgag ggtgaaggca 1980
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92 &lt;210&gt; SEQ ID NO: 2

93 &lt;211&gt; LENGTH: 1132

94 &lt;212&gt; TYPE: PRT

95 &lt;213&gt; ORGANISM: Homo sapiens

97 &lt;400&gt; SEQUENCE: 2

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101 His Tyr Arg Glu Val Leu Pro Leu Ala Thr Phe Val Arg Arg Leu Gly
102 20 25 30
104 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg
105 35 40 45
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107 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro  
108 50 55 60  
110 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu  
111 65 70 75 80  
113 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val  
114 85 90 95  
116 Leu Ala Phe Gly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro  
117 100 105 110  
119 Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr  
120 115 120 125  
122 Asp Ala Leu Arg Gly Ser Gly Ala Trp Gly Leu Leu Arg Arg Val  
123 130 135 140  
125 Gly Asp Asp Val Leu Val His Leu Leu Ala Arg Cys Ala Leu Phe Val  
126 145 150 155 160  
128 Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr  
129 165 170 175  
131 Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly  
132 180 185 190  
134 Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg  
135 195 200 205  
137 Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg  
138 210 215 220  
140 Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg  
141 225 230 235 240  
143 Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp  
144 245 250 255  
146 Ala His Pro Gly Arg Thr Arg Gly Pro Ser Asp Arg Gly Phe Cys Val  
147 260 265 270  
149 Val Ser Pro Ala Arg Pro Ala Glu Glu Ala Thr Ser Leu Glu Gly Ala  
150 275 280 285  
152 Leu Ser Gly Thr Arg His Ser His Pro Ser Val Gly Arg Gln His His  
153 290 295 300  
155 Ala Gly Pro Pro Ser Thr Ser Arg Pro Pro Arg Pro Trp Asp Thr Pro  
156 305 310 315 320  
158 Cys Pro Pro Val Tyr Ala Glu Thr Lys His Phe Leu Tyr Ser Ser Gly  
159 325 330 335  
161 Asp Lys Glu Gln Leu Arg Pro Ser Phe Leu Leu Ser Ser Leu Arg Pro  
162 340 345 350  
164 Ser Leu Thr Gly Ala Arg Arg Leu Val Glu Thr Ile Phe Leu Gly Ser  
165 355 360 365  
167 Arg Pro Trp Met Pro Gly Thr Pro Arg Arg Leu Pro Arg Leu Pro Gln  
168 370 375 380  
170 Arg Tyr Trp Gln Met Arg Pro Leu Phe Leu Glu Leu Leu Gly Asn His  
171 385 390 395 400  
173 Ala Gln Cys Pro Tyr Gly Val Leu Leu Lys Thr His Cys Pro Leu Arg  
174 405 410 415  
176 Ala Ala Val Thr Pro Ala Ala Gly Val Cys Ala Arg Glu Lys Pro Gln  
177 420 425 430  
179 Gly Ser Val Ala Ala Pro Glu Glu Glu Asp Thr Asp Pro Arg Arg Leu

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180 435 440 445  
182 Val Gln Leu Leu Arg Gln His Ser Ser Pro Trp Gln Val Tyr Gly Phe  
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185 Val Arg Ala Cys Leu Arg Arg Leu Val Pro Pro Gly Leu Trp Gly Ser  
186 465 470 475 480  
188 Arg His Asn Glu Arg Arg Phe Leu Arg Asn Thr Lys Lys Phe Ile Ser  
189 485 490 495  
191 Leu Gly Lys His Ala Lys Leu Ser Leu Gln Glu Leu Thr Trp Lys Met  
192 500 505 510  
194 Ser Val Arg Asp Cys Ala Trp Leu Arg Arg Ser Pro Gly Val Gly Cys  
195 515 520 525  
197 Val Pro Ala Ala Glu His Arg Leu Arg Glu Glu Ile Leu Ala Lys Phe  
198 530 535 540  
200 Leu His Trp Leu Met Ser Val Tyr Val Val Glu Leu Leu Arg Ser Phe  
201 545 550 555 560  
203 Phe Tyr Val Thr Glu Thr Thr Phe Gln Lys Asn Arg Leu Phe Phe Tyr  
204 565 570 575  
206 Arg Lys Ser Val Trp Ser Lys Leu Gln Ser Ile Gly Ile Arg Gln His  
207 580 585 590  
209 Leu Lys Arg Val Gln Leu Arg Glu Leu Ser Glu Ala Glu Val Arg Gln  
210 595 600 605  
212 His Arg Glu Ala Arg Pro Ala Leu Leu Thr Ser Arg Leu Arg Phe Ile  
213 610 615 620  
215 Pro Lys Pro Asp Gly Leu Arg Pro Ile Val Asn Met Asp Tyr Val Val  
216 625 630 635 640  
218 Gly Ala Arg Thr Phe Arg Arg Glu Lys Arg Ala Glu Arg Leu Thr Ser  
219 645 650 655  
221 Arg Val Lys Ala Leu Phe Ser Val Leu Asn Tyr Glu Arg Ala Arg Arg  
222 660 665 670  
224 Pro Gly Leu Leu Gly Ala Ser Val Leu Gly Leu Asp Asp Ile His Arg  
225 675 680 685  
227 Ala Trp Arg Thr Phe Val Leu Arg Val Arg Ala Gln Asp Pro Pro Pro  
228 690 695 700  
230 Glu Leu Tyr Phe Val Lys Val Asp Val Thr Gly Ala Tyr Asp Thr Ile  
231 705 710 715 720  
233 Pro Gln Asp Arg Leu Thr Glu Val Ile Ala Ser Ile Ile Lys Pro Gln  
234 725 730 735  
236 Asn Thr Tyr Cys Val Arg Arg Tyr Ala Val Val Gln Lys Ala Ala His  
237 740 745 750  
239 Gly His Val Arg Lys Ala Phe Lys Ser His Val Ser Thr Leu Thr Asp  
240 755 760 765  
242 Leu Gln Pro Tyr Met Arg Gln Phe Val Ala His Leu Gln Glu Thr Ser  
243 770 775 780  
245 Pro Leu Arg Asp Ala Val Val Ile Glu Gln Ser Ser Ser Leu Asn Glu  
246 785 790 795 800  
248 Ala Ser Ser Gly Leu Phe Asp Val Phe Leu Arg Phe Met Cys His His  
249 805 810 815  
251 Ala Val Arg Ile Arg Gly Lys Ser Tyr Val Gln Cys Gln Gly Ile Pro  
252 820 825 830

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Input Set : A:\082447-0102.txt

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254 Gln Gly Ser Ile Leu Ser Thr Leu Leu Cys Ser Leu Cys Tyr Gly Asp  
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257 Met Glu Asn Lys Leu Phe Ala Gly Ile Arg Arg Asp Gly Leu Leu Leu  
258 850 855 860  
260 Arg Leu Val Asp Asp Phe Leu Leu Val Thr Pro His Leu Thr His Ala  
261 865 870 875 880  
263 Lys Thr Phe Leu Arg Thr Leu Val Arg Gly Val Pro Glu Tyr Gly Cys  
264 885 890 895  
266 Val Val Asn Leu Arg Lys Thr Val Val Asn Phe Pro Val Glu Asp Glu  
267 900 905 910  
269 Ala Leu Gly Gly Thr Ala Phe Val Gln Met Pro Ala His Gly Leu Phe  
270 915 920 925  
272 Pro Trp Cys Gly Leu Leu Leu Asp Thr Arg Thr Leu Glu Val Gln Ser  
273 930 935 940  
275 Asp Tyr Ser Ser Tyr Ala Arg Thr Ser Ile Arg Ala Ser Leu Thr Phe  
276 945 950 955 960  
278 Asn Arg Gly Phe Lys Ala Gly Arg Asn Met Arg Arg Lys Leu Phe Gly  
279 965 970 975  
281 Val Leu Arg Leu Lys Cys His Ser Leu Phe Leu Asp Leu Gln Val Asn  
282 980 985 990  
284 Ser Leu Gln Thr Val Cys Thr Asn Ile Tyr Lys Ile Leu Leu Leu Gln  
285 995 1000 1005  
287 Ala Tyr Arg Phe His Ala Cys Val Leu Gln Leu Pro Phe His Gln Gln  
288 1010 1015 1020  
290 Val Trp Lys Asn Pro Thr Phe Phe Leu Arg Val Ile Ser Asp Thr Ala  
291 1025 1030 1035 1040  
293 Ser Leu Cys Tyr Ser Ile Leu Lys Ala Lys Asn Ala Gly Met Ser Leu  
294 1045 1050 1055  
296 Gly Ala Lys Gly Ala Ala Gly Pro Leu Pro Ser Glu Ala Val Gln Trp  
297 1060 1065 1070  
299 Leu Cys His Gln Ala Phe Leu Leu Lys Leu Thr Arg His Arg Val Thr  
300 1075 1080 1085  
302 Tyr Val Pro Leu Leu Gly Ser Leu Arg Thr Ala Gln Thr Gln Leu Ser  
303 1090 1095 1100  
305 Arg Lys Leu Pro Gly Thr Thr Leu Thr Ala Leu Glu Ala Ala Ala Asn  
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315 <213> ORGANISM: Euplotes aediculatus  
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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/502,424A

DATE: 04/02/2003  
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Input Set : A:\082447-0102.txt  
Output Set: N:\CRF4\04022003\I502424A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

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Seq#:34; N Pos. 1767,1768,1769  
Seq#:51; N Pos. 1871,1872,1873  
Seq#:91; Xaa Pos. 2,3,4,5  
Seq#:93; Xaa Pos. 2,3,4,5,7,8  
Seq#:95; N Pos. 1,2,3,5,9,10,11,12,13,14